FINDING OF NO SIGNIFICANT IMPACT
AND DECISION RECORD
EA-NM-060-03-173

DECISION: It is my decision to authorize the Addendum to the Notice Of Intent To Conduct Oil And Gas Geophysical Exploration Operations, for the Haystack 2D geophysical project, submitted by Subsurface Exploration Company. The provisions for the approval of the NOI will include the attachment of the Roswell Field Office requirements as defined in the Terms and Conditions For Notice of Intent to Conduct Geophysical Exploration and the special mitigating measures developed in the environmental assessment that will be attached by addendum to the Terms and Conditions to conduct Geophysical Exploration.

I recommend that reclamation requirements be attached to the well abandonment, including additional requirements imperative for the complete reclamation of the disturbed areas. These actions are subject to 43 CFR 3150 regulations.

Authority for these actions is the Mineral Leasing Act of February 25, 1920, as amended.

These actions will affect public land described as:

New Mexico Principal Meridian

Addendum; Section 15, N½NW¼, T. 06 S., R. 26 E.

T. 5 S. – R. 25 E. – Section 35, E1/2SW: T. 6 S. – R. 25 E. – Section 1, ALL: T. 6 S. – R. 26 E. – Section 1, ALL; Section 3, W1/2, E1/2E1/2; Section 4, W1/2W1/2, E1/2; Section 5, ALL; Section 6, ALL; Section 13, SE¼SW¼; Section 15, SW¼NW¼, W1/2SW¼; Section 21, N1/2NE¼; Section 22, N1/2N1/2N1/2; Section 23, NW¼NW¼NE¼; Section 27, E1/2NW¼ , Chaves County, Mew Mexico

FINDING OF NO SIGNIFICANT IMPACT: Based on the analysis of potential environmental impacts contained in the attached environmental assessment, I have determined that impacts resulting from the proposed actions are not expected to be significant and an environmental impact statement is not required.

RATIONALE FOR DECISION: The proposed actions would not result in any undue or unnecessary environmental degradation. Portions of the subject land and adjacent land have been used for similar purposes and all present and potential uses and users have been considered.

COMPLIANCE AND MONITORING: The geophysical project and subsequent operational phases will be monitored as per regulations.

/s/Larry D. Bray 3/30/04

Larry D. Bray, Assistant Field Manager, Lands and Minerals — Date

ENVIRONMENTAL ASSESSMENT
EA# NM-060-03-173

PROJECT NAME: Haystack 2D
BLM Serial #: NM-3150-2003-03 Addendum

ADDENDUM TO INCLUDE; Section 15, N½NW¼, T. 06 S., R. 27 E.

T. 5 S. – R. 25 E. – Section 35, E1/2SW: T. 6 S. – R. 25 E. – Section 1, ALL: T. 6 S. – R. 26 E. – Section 1, ALL; Section 3, W1/2, E1/2E1/2; Section 4, W1/2W1/2, E1/2; Section 5, ALL; Section 6, ALL; Section 13, SE¼SW¼; Section 15, SW¼NW¼, W1/2SW¼; Section 21, N1/2NE¼; Section 22, N1/2N1/2N1/2; Section 23, NW¼NW¼NE¼; Section 27, E1/2NW¼ , NMPM,
Chaves County, Mew Mexico

GEOPHYSICAL OPERATOR: Subsurface Exploration Company

ACTION: Notice Of Intent to Conduct Oil and Gas Geophysical Exploration Operations

SURFACE ESTATE: Federal

I. Introduction

A. Need for the Proposed Action:

The prospective oil and gas operator needs additional, subsurface, geologic information to determine potential drilling locations for subsequent oil and/or gas drilling operations.

B. Conformance with Land Use Plan:

Oil and gas geophysical exploration is in conformance with the Roswell Approved Resource Management Plan and Record of Decision, October 1997.

C. Relationship to Statutes, Regulations, or other Plans:

Geophysical operations are authorized under existing regulations 43 CFR 3150. The proposed action does not conflict with any known State or local planning, ordinance or zoning.

II. Proposed Action and Alternatives

A. Proposed Action:

The proposed geophysical project would consist of gathering seismic data on Federal, state, and private surface land where subsequent drilling could occur in the foreseeable future. The proposed geophysical project would be conducted in areas were past and present drilling operations have occurred. The geophysical operations would be performed by the vibroseis technique and the truck mounted method.

The proposed action would include:

The proposed geophysical project would consist of gathering seismic data on 20.47 liner miles of federal, state, and private surface land. The geophysical project would consist of vehicular traffic across country transit travel and would utilize all existing roads as much as possible. The proposed geophysical project would consist of an array of liner oriented vibroseis source lines and an array of detector (geophone) lines laid out along side the liner vibroseis source lines. The geophysical project would be performed by typical geophysical, vibrator buggies (thumper trucks - 50,000 lbs., 10' wide X 32' long), combined with hand crews on foot and/or with the use of four-wheel drive pickup trucks and ATV's to lay out the detector (geophone) lines.

B. Alternatives:

1. Relocate the Proposed Action:

While moving a proposed project to an alternative location to avoid a particular conflict, is normally a valid alternative, it is being exempted from further analysis for this project for the following reasons:

a. It is not possible to predict where the new project location would be. Alternate alignments would have to be negotiated between the BLM, the surface landowners, and the prospective oil and gas operator to achieve a mutually acceptable location that would avoid a given environmental concern but still provide the opportunity of attaining subsurface information.

b. Preliminary reviews of the proposed geophysical project did not indicate any areas of concern that would necessitate relocation of the project. The concerns that do occur are analyzed later in this document and could be satisfactorily mitigated through the application of an addendum to the standard Terms and Conditions for Notice of Intent to Conduct Geophysical Exploration (Form 3150-4a) and by adding the requirements that would lessen environmental concerns.

c. The operator can sustain minor deviations of individual lines or skips in the data collection lines. Such diversions and skips are typically sufficient to avoid most areas of environmental concern. Under most data collection activities, breaks or skips in individual lines would be required to avoid damaging crucial or sensitive environments and/or man-made improvements. Examples of protection areas would include archaeological sites, riparian areas, springs, water or oil/gas wells, excessive slopes, and karst topography.

2. No Action:

Under this alternative, the application would be rejected. None of the environmental impacts associated with the proposed action or alternate location would occur. Additionally, economic benefits of the proposed action would not be realized, and the existing environment, including the developments in place, would remain unchanged.

III. Description of the Affected Environment

A. General Setting:

The proposed geophysical project would be conducted on federal and private surface, about 35 miles Northeast of Roswell, N.M.. Historical and present use of the subject land has been limited to livestock grazing and energy development.

B. Rights of Record:

An inspection of the Master Title Plats and other Bureau records revealed the following title information pertaining to valid existing prior rights on the subject land:

- Oil and gas leases: - N/A
- No federally administered rights-of-way would be affected in the project area.
- No mining claims are recorded within project area.

C. Affected Resources:

The following critical resources have been evaluated and are either not present or are not affected by the proposed action or the alternatives in this EA:

Areas of Critical Environmental Concern (ACEC's)
Farmlands, Prime/Unique
Floodplains
Native American Religious Concerns
Threatened or Endangered Species (Plants & Animals)
Wastes, Hazardous/Solid
Wetlands and Riparian Zones
Wild & Scenic Rivers
Wilderness

1. Air Quality:

The area of the proposed action is considered a Class II air quality area. A Class II area allows a moderate amount air quality degradation. The primary sources of air pollution are dust from blowing wind on disturbed or exposed substratum soils and exhaust emissions from motorized equipment.

Soils:

The *Soil Survey of Chaves County, New Mexico, Northern Part (USDA Soil Conservation Service 1980)* was used to describe and analyze impacts to soils from the proposed action. The soil map units represented in the project area are:

Faskin-Roswell complex, o to 5 percent slopes (FRB) Permeability of the unit soil is moderate. Runoff of the unit soil is medium and the hazard of water erosion is moderate and the hazard of soil blowing is high.

Ratliff_Redona association, 0 to 2 percent slopes (RBA) Permeability of the Ratliff soil is moderate. Runoff of the Ratliff soil is slow and the hazard of water erosion is slight and the hazard of soil blowing is high. Permeability of the Redona soil moderate. Runoff of the Redona soil is slow and the hazard of water erosion is slight and soil blowing is high.
Sharvana fine sandy loam, 0 to 2 percent slopes (ShA) Permeability of the Sharvana soil is moderate. Runoff of the soil is medium and the hazard of water erosion is moderate and the hazard of soil blowing is high.

Torriorthents-Philder-Rock outcrop assoctiation, 0 to 30 percent slopes (TPD) Permeability of the Torriorthents soil is moderately rapid. Runoff of the soil is medium to rapid and the hazard of water erosion is

high and the hazard of soil blowing is high. Permeability of the Philder soil moderate. Runoff of the soil is rapid and the hazard of water erosion is high and soil blowing is high.

3. Vegetation: MIXED DESERT SHRUB

This lease is within the mixed desert shrub vegetative community as identified in the Roswell Resource Management Plan/Environmental Impact Statement (RMP/EIS). Appendix 11 of the Draft RMP/EIS describes the Desired Plant Community (DPC) concept and identifies the components of each community. The mixed desert shrub community is primarily made up of desert grasses, shrubs and cacti. The predominant shrub species include creosote *(Larrea tridentata)*, mesquite *(Prosopis glandulosa),* tarbush *(Flourensia cernua)*, four-wing saltbush *(Atriplex canescens),* little leaf sumac *(Rhus microphylla)*, Yucca *(Yucca* spp.) and sage *(Artemesia* spp.). Common cacti encountered are claret cup, cholla *(Opuntia spinosa*), prickly pear *(Opuntia phaeacantha)*, and eagle claw *(Echinocactus horizonthalonius)*. Forbs include plantain *(Plantago* spp.), globemallow *(Sphaeralcea* spp.), and buckwheat *(Eriogonum* spp.). Grasses include fluffgrass *(Dasyochloa pulchella),* sideoats grama *(Bouteloua curtipendula)*, black grama *(Eriopoda eriopoda),* dropseed *(Sporobolus* spp.), burrograss *(Scleropogon brevifolius)*, hairy grama *(Bouteloua hirsuta)* and tobosa *(Pleuraphis mutica).* Present vegetation in the immediate vicinity of the project made up of the former as well as the Grassland, Drainages, Draws and Canyons, Riparian Wetlands and Shinnery Oak-Dune communities. Additional vegetation present is shinnery oak *(Quercus havardii)*, alkali sacaton *(Sporobolus airoides)*, blue grama *(Bouteloua gracilis)*, bush muhly *(Muhlenbergia porteri),* zinnia *(Zinnia spp.),* snakeweed *(Gutierrezia sarothrae),* coldenia *(Coldenia* spp.), Yucca *(Yucca* spp.), and javelinabush *(Condalia* spp.). The vegetation in the areas of the proposed action would be affected when it is trampled by the buggie (thumper) trucks.

The Ecological Site Descriptions for the proposed project consist of 8 different ecological sites: [(CP-2 Loamy, Sandy Plains, Gravelly and Sandy Loam) & (SD-3 Gravelly, Loamy and Bottomland)]-Pecos-Canadian Plains & Valleys and Southern Desertic Basins, Plains & Mountains, respectively.

4. Invasive & Noxious Weeds:

There are no known populations of invasive or noxious weed species on the proposed geophysical project.

Infestations of noxious weeds can have a disastrous impact on biodiversity and natural ecosystems. Noxious weeds affect native plant species by out-competing native vegetation for light, water and soil nutrients. Noxious weeds cause estimated losses to producers $2 to $3 billion annually. These losses are attributed to: (1) Decreased quality of agricultural products due to high levels of competition from noxious weeds; (2) decreased quantity of agricultural products due to noxious weed infestations; and (3) costs to control and/or prevent the noxious weeds.

Further, noxious weeds can negatively affect livestock and dairy producers by making forage either unpalatable or toxic to livestock, thus decreasing livestock productivity and potentially increasing producers' feed and animal health care costs. Increased costs to operators are eventually borne by consumers.

Noxious weeds also affect recreational uses, and reduce realty values of both the directly influenced and adjacent properties.

Recent federal legislation has been enacted requiring state and county agencies to implement noxious weed control programs. Monies would be made available for these activities from the federal government, generated

from the federal tax base. Therefore, all citizens and taxpayers of the United States are directly affected when noxious weed control prevention is not exercised.

5. Ground Water Quality: Geophysical (seismic) activity have no effect on ground water aquifers.

6. Wildlife:

Wildlife species utilizing this area for habitat include mule deer, pronghorn antelope, coyote, fox, rabbits, kangaroo rats, pocket gophers, reptile species, as well as a variety of songbirds, dove, quail, and raptors.

The are no known threatened or endangered species of plant or animals within the project area A list of federal threatened, endangered and candidate species reviewed for this EA can be found in Appendix 11 of the Roswell Approved RMP (AP11-2). There are no designated critical habitat areas within this allotment. The swift fox is a Federal Candidate species that may occupy or utilize the area; refer to the Biological Opinion (AP11-38) in the Roswell RMP for a detailed description of the range, habitats and potential threats. The federal candidate black-tailed prairie is also known to occur within the grassland area. However, no localized prairie dog towns are located within the actual project site.

7. Range: The source and detector lines are located on BLM grazing allotments #64045 Corn Bros., Trust; c/o Corn Bros. Inc., HCR 31,Box 1141, Roswell, NM 88201; 64040 E.N. Benedict Est. PO Box 612, Dexter, NM 88230; 65007 Cooper-Smith Ranch c/o Mark S. Cooper Estate, PO Box 33 Roswell, NM 88202-0033; 65001 SEA Cattle Co. , Singleton Family Trust, 335 N. Maple Dr. #177, Beverly Hills, Ca, 90210; 65008 Van Eaton Ranch, 1503 E. 17th Street, Roswell, NM 88201; 65019 Cooper Pyett Ranch c/o Mark S. Cooper Estate , PO Box 33 Roswell, NM 88202-0033; 65020 Bosque Grande Ranch, c/o Larry & Waynette Wooton, PO Box 2041, Roswell, NM 88202-2041.

8. Visual Resources:

The geophysical project lands are located within a designated VRM Class III area. The setting due to mesquite vegetation is a green color pattern in warm months, and in winter a gray to gray-green color . The mesquite is very important in this landscape setting because of its form, color and texture. The mesquite vegetative cover protects the view shed of the area by screening the 2-D seismograph proposal for the area.

9. Recreation:

The area around the proposed action is primarily used by recreational visitors engaged in hunting, caving and off-highway vehicle driving. Other visitors include oil and gas industrial workers and ranchers.

10. Cave/Karst:

The proposed actions are located in the *Medium Karst Potential Area*. No surface cave/karst features were observed in the proposed action vicinity.

Minority or Low-income Populations or Communities: The proposed actions would not affect the minority or low-income populations or communities.

Cultural Resources: The proposed action could affect cultural resources. One archeological site was recorded as a result of the cultural survey. Site number LA 143417 is considered a significant archeological site with remaining data and would be impacted if driven over by vehicular traffic.

IV. ENVIRONMENTAL IMPACTS

A. Proposed Action Impacts:

The geophysical project is considered casual use and no surface disturbance would be involved in the performance of this project.

1. Air Quality:

Air quality would temporary be impacted with pollution from exhaust emissions, chemical odors, and dust that would be caused by the motorized equipment used on the geophysical project. Dust dissemination would discontinue upon completion of the geophysical project. Air pollution from the motorized equipment would also discontinue upon completion of the geophysical project. The winds that frequent the southeastern part of New Mexico generally disperse the odors and emissions. The impacts to air quality would be greatly reduced when the geophysical project is completed.

2. Soils:

No earthmoving operations will be permitted on the project areas. The exposed soil created from buggie (thumper) vibration of 4' X 8' steel plates and by truck tires, would be susceptible to wind blowing and water erosion. No more than one traverse of each seismic line by each thumper truck would minimize this impact. The impact to the soils would be remedied when vegetation re-establishes itself, either naturally or by seeding the damaged areas created by vehicles conducting geophysical exploration operations.

Additional soil impacts could be anticipated when heavy precipitation causes water erosion damage on seismic source line routes. Water saturated segment(s) on the source line routes could become impassable and unauthorized driving may occur outside the designated source line corridors. Absolute minimum number of trips necessary to complete each seismic line would alleviate potential impacts from water erosion damage during times of heavy precipitation. And no seismic activity would be allowed during intervals of heavy precipitation would minimize this impact.

Seismic truck activity and surface disturbance will not be allowed on slopes over 30 percent and fragile soil (See Figure 3). The areas that contain slopes over 30 percent and fragile soil are highlighted in yellow (See Figure 3).

3. Vegetation:

No vegetation would be removed from the project areas. If geophysical source lines remain void of vegetation, because of thumper truck damaged areas, the reclamation efforts would immediately follow upon completion of the geophysical project. Vegetation impacts would be short-term when the geophysical project is completed and no other vehicles are driven over the geophysical source lines. Successive oil and gas development could subsequently occur at which time mitigation measures ensuring the establishment of vegetation would be done on a case by case basis.

4. Invasive & Noxious Weeds:

The geophysical project may unintentionally contribute to the establishment and spread of noxious weeds. Noxious weed seed could be carried to and from the project areas by buggies (thumper trucks) or other transport vehicles that are used during the geophysical project. The main mechanism for seed dispersion on public land is by equipment and vehicles that were previously used and or driven across or through noxious weed infested areas. The potential for the dissemination of invasive and noxious weed seed may be elevated by the use of equipment typically contracted out to companies that may be from other geographic areas in the region. Washing and decontaminating the equipment prior to transporting and exiting the geophysical areas would minimize this impact.

Impacts by noxious weeds will be minimized due to requirements for the company to eradicate the weeds upon discovery. Multiple applications may be required to effectively control the identified populations.

5. Ground Water Quality: Ground water would not be impacted by this project.

6. Wildlife:

Some small wildlife species may be killed and their dens or nests destroyed during buggies (thumper trucks) traveling across country during geophysical operations. The short term negative impact to wildlife that would occur from the geophysical operation is anticipated from the vehicular noise levels and temporary provisional habitat destruction. Most wildlife species with a low tolerance during geophysical operations would be displaced from the area due to ongoing disturbances, such as, constant geophysical vehicular traffic. Upon completion of the geophysical project, the previous levels of wildlife would return to the area.

A complete discussion on impacts to the swift fox can be found in the appendix of the Roswell RMP. No negative impacts to Black-tailed prairie dogs are anticipated.

7. Range: There would be some minor disruption of livestock grazing in the pasture, specifically on the geophysical project. Vehicle traffic would increase in the area, which may lead to conflicts with livestock.

8. Visual Resources:

The proposed seismograph proposal may provide a geometrically strong horizontal visual contrast in form and line to the characteristic landscape and vegetation, which have flat, horizontal to slightly rolling form and line and may be seen from key observation points within the area.

The management objective for the proposed action in a designated VRM Class III area is to: Partially retain existing landscape character. The level of change to the characteristic landscape should be moderate. Management activities may attract attention but should not dominate a casual observer's view. Changes should repeat the basic elements found in the predominant natural features of the characteristic landscape.

To satisfy the VRM class designation, the area form, line, color and texture of the existing vegetation should be left in place. Mesquite acts as the dominant screening aspect for potential visual intrusion within the area. While vibrosies vehicles would be allowed to run over the existing vegetation, within two growing seasons the mesquite would recover from any temporary impacts and grow in size sufficient enough to screen any adverse visual impacts to the soil caused by the seismograph survey.

Cumulative adverse visual impacts can be avoided by leaving healthy mesquite cover to screen the actions of this proposal.

9. Recreation:

The use of existing access roads/ways would slightly modify the existing visual resources of the area. After two growing seasons the existing vegetation types within the seismograph project view shed should return to the form, line, color, and texture of the existing landscape. By viberseising over the existing mesquite and leaving the existing living plants in place the mesquite will regrow and form a vegetative barrier to off-highway vehicles. After two growing seasons the existing access roads, driving routes would blend in with the existing environment.

10. Cave/Karst:

There should be no adverse impact impacts to any karst features that may be discovered within the proposed action areas.

11. Minority or Low-income Populations or Communities: The proposed actions would not impact the minority or low-income populations or communities.

12. Cultural Resources: Impacts to LA 143417 would be avoided by following a pink and orange flagged reroute to the north of line 190 extension. The reroute begins at Station number 402 and ends at station number 408. The geophysical company shall strictly adhere to the reroute.

B. Alternatives:

1. Relocation Alternative:

The alternative of changing the location involved in this action was not analyzed further because no other alternative location would have significantly fewer impacts than, or have a clear advantage over, the proposed location.

2. No Action Alternative:

The no action alternative would constitute denial of the application. This alternative would have no consequential results from the identified environmental impacts. There would, however, be an adverse economic impact to the applicant through the denial of the lessee's right to gather data on mineral reserves or through increased costs of accessing those mineral reserves through other means. There have been no significant or unmitigatable impacts identified as a result of this analysis which would warrant selection of the no action alternative.

C. Mitigation:

The Roswell Field Office; Terms and Conditions For Notice of Intent to Conduct Geophysical Exploration and the special addendum requirements derived from this EA, would be applied to this proposed action to minimize the surface disturbance and conserve the surrounding landscape.

The following are mitigating measures to offset the environmental impacts from the proposed action:

Enter new mitigation measures.

1. LA 143417 shall be avoided by following the pink and orange flagged reroute to the north of line 190 extension between stations 402 and 408.

2. Cave-Karst Requirements

a. If, during any project activities any sinkholes or cave openings are discovered, all construction activities shall immediately cease. Contact Larry Bray at (505) 627-0250.

b. The BLM Authorized Officer will, within 24 hours of notification in "1" above, conduct an on-the-ground field inspection for karst. At the field inspection the authorized field inspector will authorize or suggest mitigating measures to lessen the damage to the karst environment. A verbal order to proceed or stop the operation will be issued at that time.

3. Seismic truck activity and surface disturbance shall l not be allowed on slopes over 30 percent.

D. Cumulative Impacts:

While it is likely that there will be no significant cumulative impact from the proposed action, subsequent oil and gas development, and other surface-disturbing activities in this area, may potentially have negative cumulative impacts on vegetation, soil, water, livestock, wildlife, and visual resources.

V. Consultation and Coordination

No onsite inspection was conducted on the project area . Coordination and consultation has occurred with the Subsurface Exploration Company, Permitting Agent Dr. Bob Grote, 1-505-622-1563 and Subsurface Exploration Company Operations Manager, Mr. James Volpone. The comments and suggestions expressed have been incorporated into this EA.

Coordination and consultation has occurred with Roswell Field Office's Staff. The comments and suggestions expressed during the review of the proposed action and environmental assessment have been incorporated into this EA.

Reviewed by:

_____ _____

Irene Gonzales Salas, Realty Specialist Date